Rehabilitation Countermeasures for Drinking Drivers

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The primary goal of rehabilitative programs for drunk driving offenders is to reduce the probability of subsequent drinking and driving. Punishment, such as licensing penalties, fines, and incarceration, is also designed to prevent subsequent drinking and driving either by making the consequences of arrest so unpleasant and costly as to discourage the offense or by eliminating the offenders' capacity to drive (by putting them in jail or by invalidating their drivers' licenses).

Rehabilitation is based on one of two assumptions: That offenders drink and drive because they lack knowledge about the effects of alcohol, the potential consequences of drinking and driving, and strategies for avoiding drinking and driving; or that drinking and driving results from an abusive, addictive, or otherwise uncontrolled pattern of alcohol consumption. Therefore, offenders must receive education to help them rationally choose not to drink and drive or they must receive treatment so they can eliminate abusive drinking and thus stop drinking and driving.

The goals of rehabilitation are certainly important – almost one-third of convicted drinking drivers have a previous offense (Sweedler and Smith 1984). Preventing some part of this recidivism is desirable. From the perspective of individual offenders, gaining information and skills and receiving treatment to allow them to avoid drinking and driving can save them from additional expense, humiliation, inconvenience, and potential tragedy. Rehabilitation can also have positive effects on other areas of the offenders' lives if abusive drinking is reduced.

It is important to emphasize that even programs that are extremely effective in reducing recidivism *cannot* be expected to have major effects on traffic safety. Reed (1981) estimated that even if all persons arrested for drunk driving were prevented from ever combining drinking and driving again, fatal crashes would decrease by only 3 percent. Other efforts aimed at prevention or general deterrence such as well-publicized enforcement crackdowns have the potential to save many more lives.

Characteristics of Rehabilitation Countermeasures

There is wide variation in what are referred to as rehabilitative programs. Programs can vary in length, format, content, and structure. Programs may be quite brief (8 to 10

hours) or more lengthy (50 or 100 hours). They may be presented in a concentrated form over a few days or stretched over several weeks or months or even years. The format may be didactic with offenders sitting through a series of lectures, or the program may include more active participation by the offender. Some programs include group or individual counseling. Some programs involve spouses or other people close to the offender.

The content of programs also varies greatly. Some programs focus on information about the effects of alcohol, the law, potential consequences of drinking and driving, and strategies for avoiding drinking and driving (including both strategies for decreasing drinking and strategies for avoiding driving while intoxicated, such as appointing designated drivers). Other programs focus more heavily on helping offenders to identify abusive or addictive drinking patterns and providing (or persuading participants to seek) alcoholism treatment. Programs also exist that emphasize development of the right hemisphere of the brain as a way of reducing problem drinking or that teach assertiveness skills in hopes that these skills will help participants avoid drinking and driving.

Rehabilitative programs also vary considerably in the ways they are used. For example, in some States, offenders go through an assessment process to determine the nature and severity of their alcohol problems and are assigned to one of a number of rehabilitative programs based on the outcome of the assessment. In other States, offenders are assigned to programs based on other criteria such as blood alcohol concentration at the time of arrest or the number of previous alcohol-related offenses. The manner in which compliance with rehabilitative orders is enforced also varies, as well as other penalties that are applied along with rehabilitation.

States vary in the way these programs are administered. Some programs are delivered by State agencies while others are carried out under contract with a wide variety of private agencies (everything from alcoholism treatment facilities to driving schools). The amount of control that the State exerts in determining program content, format, and standards also varies. States monitor program quality and adherence to standards in varying degrees as well.

Issues in Rehabilitation Program Evaluation

Assessment of the effectiveness and value of rehabilitation programs is at best a complicated endeavor, and a number of important issues must be considered in evaluating such programs and in considering the results of evaluation studies. The criterion issue, or the explicit definition of program success, is a pervasive problem for any complex applied program, but is particularly difficult for rehabilitation programs operated within a larger traffic safety context. In this context an alcohol treatment program would be successful if rehabilitation reduced the probability of subsequent involvement in alcohol-related crashes, or at least, if the frequency of the behavior assumed to lead to such crash involvement (i.e., drunk driving) was diminished.

Measures such as alcohol-related crash involvement or driving while intoxicated (DWI) or driving under the influence (DUI) arrests and convictions are frequently chosen as criteria of success. But these measures pose at least two important methodological problems. First, and perhaps most importantly, being arrested for DUI or even being involved in an alcohol-related crash should probably be considered as only incidental to the drinking problems toward which many treatment programs are directed; these measures are certainly not comprehensive indicators of the intended effects of treatment. Second, despite the fact that alcohol-related crashes and drunk driving arrests occur frequently enough to justify countermeasures, the probability of these recidivist events is so low that statistical comparisons between treatment and no-treatment groups are usually not sensitive to treatment effects (the comparisons

usually have low statistical power). That is, the sample size must be very large or the group differences in recidivism very substantial for these differences to be empirically identified.

To address these methodological problems, some evaluations of rehabilitation programs have used other measures of success such as self-reports of drinking behavior, indices of personal adjustment, and other indicators tied more closely to the expectations of the treatment programs. Such measures are not without their methodological shortcomings, including their frequent reliance on unsubstantiated self-reports.

Another methodological problem, which has constrained assessments of treatment effectiveness at least as much as measurement shortcomings, concerns the adequacy of the experimental or quasi-experimental designs for contrasting treatment against no-treatment effects. In an ideal case, treatment evaluations would be conducted under carefully controlled experimental conditions, with individuals randomly assigned to treatment and no-treatment conditions, and the posttreatment performance of treatment and control groups compared. These conditions have not been uniformly available in rehabilitation evaluation studies, and many of the results reported in the literature represent less than rigorous experiments.

Evaluation Results

Keeping in mind the variability in the nature of rehabilitative programs and the difficulties in accomplishing a full and fair assessment of their effectiveness, we may proceed to a discussion of the results of evaluations of rehabilitation programs conducted during two distinctly different periods. The Alcohol Safety Action Projects (ASAP) of the 1970s introduced rehabilitation modalities as part of an integrated set of alcohol/traffic safety countermeasures. The 1980s brought a number of locally tailored programs, including a program based on skills-building tested in California, the Weekend Intervention Program originated at Wright State University in Ohio, and programs to provide court-mandated alcoholism treatment.

The ASAP Era

In June of 1970, the National Highway Safety Bureau (later to become the National Highway Traffic Safety Administration—NHTSA) of the new U.S. Department of Transportation introduced nine traffic safety countermeasure demonstration projects, which came to be known as Alcohol Safety Action Projects or ASAPs. Twenty additional ASAPs were funded in 1971, and a final six projects were initiated during 1972. Each ASAP was designed to operate as a local drinking/driving control system (Joscelyn and Jones, 1971) which coordinated the efforts of traditional traffic safety and driver control agencies such as traffic courts, police departments, motor vehicle departments, and community health resources. Some of the ASAPs operated in single metropolitan areas, others covered large city/county regions, and still others operated as statewide projects.

The NHTSA intent in funding these local projects was to provide for a demonstration (or rather, 35 replications of a demonstration) of the feasibility of an integrated systems approach to the alcohol traffic safety problem. The goal of each project was to reduce alcohol-related motor vehicle crashes by reducing the number of persons who drive while intoxicated or impaired. Rehabilitation modalities shared this project goal with law enforcement agencies, judicial systems, and public information and education components of the ASAPs. The conceptual model that prescribed the general role of rehabilitation in the ASAPs is shown in figure 1.

ASAP rehabilitation countermeasures were conceived of as a bridge between the

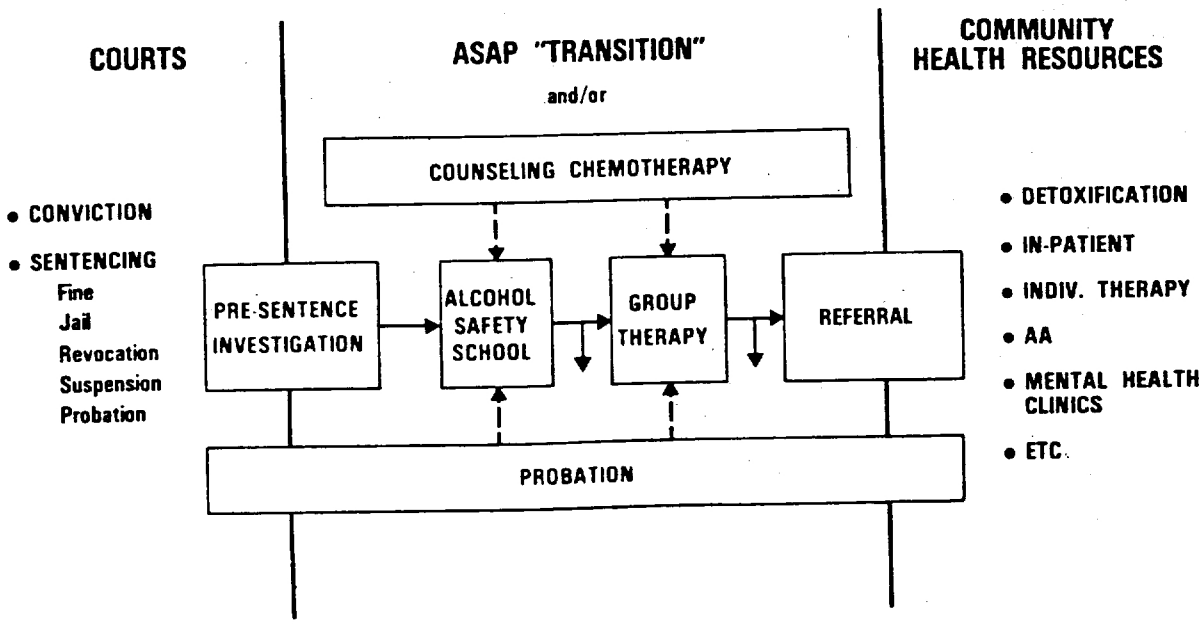

Figure 1. ASAP rehabilitation: A court-referral system

traffic court systems that adjudicated drunk driving offenses and various community health and mental health resources that provided alcohol treatment. As demonstration projects, the ASAPs were expected to provide rigorous assessments of all countermeasures employed by the projects, including rehabilitation. Each project included an evaluation function to accomplish this purpose.

ASAP Rehabilitation Countermeasures

ASAP rehabilitation systems were, in each of the 35 projects, designed to supplement the driver control functions of the police, courts, and licensing agencies. A fundamental assumption of ASAP rehabilitation countermeasure programs was that a significant proportion of individuals arrested and convicted of drunk driving offenses were "problem drinkers" whose control over their drinking behavior (and thus drinking/driving behavior) was limited. This assumption created a systems requirement to perform at least a minimal diagnosis to discriminate "problem" from "nonproblem" drinkers among the ASAPs' drunk driver clientele, and presentence investigations represented a primary liaison between the traffic courts and each project's rehabilitation countermeasures program.

A substantial number of rehabilitation programs were conducted by the projects, or received referrals from the ASAPs. Thirty-two of the thirty-five projects used an "alcohol safety school" as a rehabilitation modality. Most of these schools were conducted by the ASAPs themselves. Some projects used the alcohol safety school as a re-education/rehabilitation modality for nonproblem drinkers, some as a treatment alternative for problem drinkers, and still others as a rehabilitation countermeasure for both problem and nonproblem drinkers. The schools were short-term (2-6 sessions), educationally oriented programs designed to handle a substantial number of drunk driver referrals. The school was frequently the sole rehabilitation assignment for nonproblem drinkers while for problem drinkers, schools were often used in conjunction with other treatment alternatives.

In 10 ASAPs, special group therapy programs were developed and conducted by the projects themselves. Generally, these programs used weekly or biweekly sessions of an hour or two in length that extended over a period of a month to 6 weeks. The primary source of alcohol rehabilitation services across the ASAP sites was, however, the existing rehabilitation system of the community, and most ASAP treatments were provided by community treatment agencies. Outpatient treatment services provided by these agencies included both group therapy and individual counseling. Some projects established cooperative arrangements with local Alcoholics Anonymous chapters and utilized AA as a referral resource. Limited use was made, across projects, of inpatient treatment referrals. A few projects used chemotherapy (primarily disulfiram) as a treatment modality, usually in combination with some kind of group or individual therapy.

Analyses of treatment effectiveness were conducted at the individual project level and also at the overall program level (Ellingstad and Springer 1976). The general approach taken to the evaluation of rehabilitation effectiveness at both levels involved comparing the performance of individuals who had been exposed to ASAP-sponsored or -coordinated treatment with the performance of individuals who were not referred to rehabilitation. Unfortunately, with but two exceptions (Nassau County, New York and Phoenix, Arizona), the demonstration projects were not structured to provide robust experimental tests of rehabilitation with random assignment of clients to treatment and no-treatment conditions. The "no-treatment controls" at most ASAP sites were of individuals excluded from treatment because there was no room in the treatment programs when they entered the system, they refused to participate, or for one reason or another they were judged to be unsuitable for entry into treatment.

Project-level analyses of treatment program effectiveness were reported to NHTSA annually in *Analysis of Alcohol Rehabilitation Efforts*, a mandated analytic study prepared by the local project evaluation component. A number of summaries of these studies have been reported (see, for example, Ellingstad, 1976; Spiegel and Struckman-Johnson 1978). Evaluations included overall assessments of rehabilitation system effectiveness (all treatment modalities combined) as well as assessments of individual rehabilitation countermeasures. Criteria on which these analyses were based included crash recidivism, arrest recidivism, and in some cases, other measures obtained by testing or interviewing program participants. The most common criterion of program success was alcohol-related arrest recidivism. While isolated reports of treatment impact on traffic safety criteria (crash or arrest recidivism) came from some of the 35 projects, an inverse relationship was also apparent between the methodological adequacy of the analytic study and its likelihood of reporting significant results.

Despite the generally pessimistic results of these analyses when critically evaluated, some indications of success were present. Process-oriented studies of alcohol safety schools almost universally demonstrated them to be capable of altering levels of knowledge and attitude, even though the effects of these treatment programs on recidivism was equivocal. Most analyses of the more intensive treatment programs showed no clear evidence of treatment effectiveness. A notable exception concerned the Disulfiram Clinic operated by the Los Angeles ASAP. This program demonstrated a statistically significant reduction in recidivism associated with disulfiram treatment in a well-controlled and statistically sound analysis.

Program-level analyses of ASAP rehabilitation countermeasure effectiveness were also performed by pooling data (mostly arrest recidivism data) submitted by the individual projects (Ellingstad and Springer 1976). Comparisons of survival rates (proportions of clients avoiding rearrest) over a 3-year followup period for nonproblem drinkers (as determined in presentence investigations) showed the pooled across-project treatment group to have outperformed the pooled no-treatment group. This program-level result was at least suggestive that treatment may have had some of its intended effect on nonproblem drinkers. A similar comparison for problem drinkers did not show sig-

nificant differences in survival rates between individuals who had been referred to ASAP treatments and those who had not received treatment.

It seems fair to conclude that, on balance, the results produced by the ASAPs in identifying effective alcohol rehabilitation countermeasures were disappointing. Significant methodological problems constrained both project- and program-level analyses of rehabilitation system effectiveness and prevented clear tests of treatment effect. The absence of adequate experimental controls seemed to be the principal issue.

The Short-Term Rehabilitation Study

It became apparent after the first few years of ASAP operations that the methodological problems alluded to previously were likely to seriously handicap assessments of rehabilitation effectiveness within this program. Because of this concern and because of project-level interest in a relatively new alcohol treatment program called Power Motivation Training (PMT), a series of important changes in the implementation and evaluation of ASAP rehabilitation countermeasures were introduced beginning in 1973 (Ellingstad 1976*b*). PMT, developed by McBer and Company, alcohol treatment researchers, was based on a distinct set of theoretical principles and consisted of a well-defined and carefully described set of therapeutic procedures. Moreover, PMT was a short-term modality that did not depend on highly trained professional therapists and could be readily implemented within the ASAP rehabilitation systems (Cutter, et al. 1975). The PMT program was formally begun in eight sites in early 1975. McBer and Company, under contract with NHTSA, trained therapists at the participating sites (Boyatzis 1976). In addition, an evaluation function was created to develop a system to collect, monitor, and process data from the PMT sites and to develop instruments to provide measures of relevant indices of treatment effectiveness. The name was changed to the Short-Term Rehabilitation (STR) Study to reflect the fact that several treatment alternatives in addition to PMT were to be included in the experimental designs at some of the sites, and that an additional three ASAPs that did not use PMT but did employ random assignment procedures and no-treatment control groups were to be added to the study.

Each site in the STR study used its presentence investigation procedures to identify a pool of mid-range problem drinkers considered to be the most appropriate clients for PMT and related treatment programs (both social or nonproblem drinkers and alcoholics were excluded). From this pool, clients were randomly assigned to either treatment or control conditions. A comprehensive data collection procedure involving extensive interviews, questionnaires, and record checks was conducted at the time of assignment, as well as at 6-, 12-, and 18-month followup contacts.

A total of 3,663 clients were randomly assigned to treatment and no-treatment conditions at the 11 sites, with 2,462 clients exposed to various short-term rehabilitation modalities and 1,201 clients assigned to no-treatment or "minimum exposure" control groups (some sites required a minimal treatment such as the distribution of literature about alcohol and driving instead of a true no-treatment control condition – this affected only four sites).

The extensive data collection employed within the STR study provided for a large battery of outcome criteria including: traffic safety outcome measures such as crash and arrest recidivism; direct indices of drinking behavior such as duration of abstinence, average level of alcohol consumption, and incidence of abusive drinking; life status measures such as current drinking problems, physical health problems, and employment/economic stability; and measures of personality characteristics (Ellingstad and Struckman-Johnson 1978).

Detailed analyses were conducted for each set of dependent variables within the experimental designs of each of the 11 STR sites individually (Struckman-Johnson and Ellingstad 1978*a*). No compelling evidence of treatment effectiveness was found in any

of these analyses and, in fact, statistically significant negative effects were observed in two or three instances.

Program-level analyses were also performed on data pooled from the 11 sites (Struckman-Johnson and Ellingstad 1978*b*). A large number of statistical comparisons revealed some evidence of treatment effectiveness for alcohol safety schools (employed as a treatment alternative by four of the STR sites), and some evidence suggested a negative treatment effect for PMT as a single modality treatment assignment.

The CDUI Project

Despite the fact that the STR study had involved thousands of drunk driver clients and had been able to achieve the methodological requirements (random assignment and control groups) of a true experiment, the fact that the study encompassed 11 very different jurisdictions presented organizational difficulties that may have prevented as powerful a test of rehabilitation countermeasures in the traffic safety context as might be desired. In late 1976, a massive, single site experimental project called the Comprehensive Driving Under the Influence of Alcohol Offender Treatment Demonstration (CDUI) Project was initiated in Sacramento, California.

The CDUI Project operated from September 1977 through January 1981 in Sacramento County, receiving its referrals from the Sacramento County Municipal Court. The project employed two separate experimental designs, one for first-offense drunk drivers, the other for drivers convicted of multiple DUI offenses. The first-offender design provided random assignment of 4,639 individuals convicted of DUI to one of three treatment alternatives: (1) an in-class education program consisting of four classroom sessions of 2 1/2 hours each over a 4-week period, using a standard alcohol education program patterned after others in use around the United States; (2) a home study program consisting of an organized set of reading materials designed as a self-study package, which was presented to the clients in a 1-hour orientation session; and (3) a control group who received no treatment. All clients were placed on 2-year informal probation and received a reduced fine as an incentive to participate. In addition to the treatment assignments, one-half of each treatment group was randomly assigned to receive quarterly monitoring letters to remind them of their probation status and to encourage them to drive soberly. Half the clients were also randomly assigned to receive followup interviews designed primarily to collect life activities data for treatment outcome analyses.

Both the in-class and home study education programs were shown to produce significant reductions in DUI recidivism relative to the no-treatment control group. Neither program, however, had significant impact on crash involvement or on the variety of life status measures collected at followup intervals 10 and 20 months subsequent to treatment entry (Reis 1982).

The principal CDUI multiple offender design involved a postconviction presentence (PCPS) procedure under which a guilty plea to DUI was accepted prior to referral, but final disposition and sentencing was postponed 13 months to permit participation in the assigned treatment condition. Those clients who successfully completed the assigned treatment then had the charge reduced to reckless driving, thereby avoiding the mandatory licensing action that would have resulted from the DUI conviction. The 1,103 clients available to the PCPS multiple offender design were randomly assigned to the following conditions: (1) Control (341): No educational or rehabilitative treatment, no educational counseling, no chemotherapy, and no biweekly contacts; (2) Biweekly contacts only (326): Twenty-six 15-minute individual interviews with a probation officer every other week for 1 year; (3) Skills workshop (110): A group educational counseling approach developed for the CDUI project consisting of 34 2-hour group counseling sessions with the first 16 sessions meeting weekly and the final 18 sessions every other

week for the remainder of the year of treatment; (4) Skills workshop and chemotherapy (109): Three supervised administrations of disulfiram per week for the first 6 months of the assignment were combined with the skills workshop group therapy program; (5) Educational eclectic therapy (109): Counselors conducting eclectic groups had complete freedom to organize group therapy sessions according to their preferred style. The first four 2 1/2-hour sessions were alcohol education classes identical to the first-offender classes. They were followed by 28 weekly 2-hour group therapy sessions; and (6) Educational eclectic therapy and chemotherapy (108): Three supervised administrations of disulfiram per week for the first 6 months of the assignment were combined with the educational eclectic therapy program.

Followup of multiple offender clients over a 20-month period showed both counseling programs to produce significant reductions in DUI recidivism in comparison to the no-treatment control group. Adding chemotherapy to counseling programs did not improve the recidivism performance of these rehabilitation programs. Chemotherapy was shown to be effective in reducing levels of alcohol consumption for up to 14 months beyond the termination of disulfiram treatment in clients who completed a counseling program. None of the multiple offender treatments affected crash involvement (Reis 1982).

In contrast to the earlier ASAP and STR experiences, the CDUI results provided considerably more encouragement with respect to the efficacy of alcohol rehabilitation programs operated within the context of a traffic safety system.

Post-ASAP Rehabilitation Programs

Despite the mixed and disappointing results of evaluations of the various rehabilitative programs carried out in the ASAP era, the concept of rehabilitation still generated interest. Additional program models have been tested in recent years.

Skills Building

While some ASAP programs were able to show some reduction in recidivism and subsequent crashes, the magnitude of the reductions was disappointing. However, many of the program models evaluated seemed rather weak and not well grounded in theoretical or empirical knowledge about alcohol abuse or behavior change (Kunkel 1983). Moreover, little attention seemed to have been paid to the quality of implementation. Programs as they occur in actual practice often bear little resemblance to programs as they appear on paper (French and Kaufman 1981). It seemed possible that the disappointing outcomes might be due in part to weak program models or poor implementation.

To give rehabilitation countermeasures the best chance of showing effectiveness, the State of California sponsored an evaluation effort that included an extensive program model development effort and careful attention to quality of implementation (Stewart et al. 1987). The model program that was developed resembled traditional first-offender programs implemented in the ASAPs in many respects. It included information on the effects of alcohol, on drinking and driving laws, on symptoms of alcohol addiction, etc. It also had several distinctive features, including a focus on the development of skills to enable the offenders to separate drinking from driving. This aspect of the program was based on Bandura's Self-Efficacy model (Bandura 1977) in which participants develop strategies for dealing with a series of risky situations of increasing difficulty.

Over the course of the program, offenders were helped to develop, rehearse, and practice realistic strategies to avoid drinking and driving. In addition, rather than

attempting to deal with serious problems such as alcoholism within the constraints of the program, a strong emphasis was placed on assessing the offenders' problems and referring them to other helping resources in the community. The program was structured to include a great deal of enforced participation so that the offenders were compelled to be actively engaged in the program. Staff at the program sites received extensive training and ongoing technical assistance and monitoring to ensure that the quality of implementation would be high.

The program had two segments. The first segment was a 6-week (15 hour) educational program and the second was a 7-week (11 hour) counseling program. Offenders were randomly assigned to the education-only or the education-plus-counseling segments to determine whether programs of differing lengths and intensities would have different effects.

The two versions of the model program were compared to two existing California programs and to a control group (which participated in community service projects but received no formal program content). Participants were randomly assigned to these program conditions. The driver records of the participants in the four groups were followed over 5 to 11 months to determine recidivism rates. In addition, a sample of participants was interviewed before program entry and again 6 months later to include more sensitive indicators of program success by broadening outcome measures to include drinking behavior, symptoms of alcohol dependency and undetected drinking and driving. Close associates of a sample of the respondents were also interviewed to validate self-reports of drinking and drinking/driving.

Even given this carefully designed, well-implemented program, no differences could be detected between the self-reported drinking behavior and drinking/driving behavior of first offenders randomly assigned to the four program conditions, including the control condition. Though some decreases in drinking and in frequency of drinking and driving were reported, these decreases were reported equally by respondents in all program groups. Thus, no evidence was found of the superiority of any program type over any other, including the control group, which received no program at all. In fact, the observed changes could be due to the natural reaction to any intervention or could be the result of a statistical artifact (regression to the mean). The followup time for recidivism was quite short, but no significant differences in recidivism were detected.

Thus, the modest effects demonstrated by other evaluations of rehabilitative programs were not improved upon by altering program content and format. Within the range of standard programs, no program type appears to have any outcome advantage over any other, and the potential traffic safety effects of any program are very small indeed.

The Weekend Intervention Program

The Weekend Intervention Program (WIP) (Siegal and Moore 1985) was based on the assumption that it is unrealistic to expect a long-term pattern of problem drinking to be altered after a short period of treatment or education. The intervention approach does not try to treat the problem drinker. Instead, it is designed to identify whether a problem exists, to assess its extent and severity, and to refer offenders in need of treatment to appropriate facilities. The offenders follow through on the referral on their own, sometimes with the encouragement or order of the court.

As the title implies, the program takes place over the weekend. Educational and counseling activities takes place in a medical school, and clients are housed in a nearby motel in the evenings under police supervision. The goals of the program are to carry out an assessment or diagnosis, to break down denial in those participants who have a serious problem, and to prepare offenders to accept treatment if needed.

An evaluation of WIP indicated that the program was effective in lowering the recidivism rate as compared to nonequivalent comparison groups who received a suspended sentence or who were sentenced to jail. The effect was strongest for repeat offenders. During a 1- to 2-year followup of repeat offenders, 21.8 percent of WIP participants recidivated compared to 26.8 percent of jailed offenders and 30.4 percent of offenders with suspended sentences. For first-time offenders, the recidivism rate for WIP participants was 9.2 percent while the rate for all other first offenders was 12.7 percent (Siegal 1987).

The program was acceptable to the community in Ohio. It was easily understood by the public and was acceptable to law enforcement and judicial personnel. It was less expensive than traditional incarceration and, apparently, had a more positive effect on subsequent drinking and driving (Siegal and Moore 1985). Clearly, however, the effects on recidivism were modest. The program may serve a function in the community by providing an acceptable form of punishment that may also be advantageous to the offender, but its effects on traffic safety were negligible.

Compulsory Treatment Models

Some more intensive program models have been tried to deal with habitual offenders or those with severe alcohol problems. One intervention is court mandated alcoholism treatment for offenders who are addicted. Questions have been raised about the appropriateness or efficacy of compulsory treatment. Some research indicates that the outcome of treatment for patients receiving treatment as part of a suspended sentence for drunk driving compare favorably with improvements in alcoholics treated voluntarily (Ben-Arie et al. 1983). A 7- to 9-year followup was carried out with 50 offenders who had been diagnosed alcoholic (most of whom were multiple offenders) and who received compulsory treatment. At the time of followup, 14 of the offenders had been convicted of further driving offenses. Thus, the treatment cannot be considered highly successful in terms of reducing recidivism. Forty percent of the offenders were either sober or generally sober, indicating that the treatment may have been useful in overcoming alcoholism (Ben-Arie, et al. 1986).

A second model that has been implemented in several locales is the combination of incarceration and treatment. Special facilities are set up to incarcerate drunk driving offenders, usually repeat offenders. During their incarceration, inmates participate in a highly structured education and treatment program, usually including detoxification (if necessary), educational sessions, and group and individual counseling. A program of this type carried out in Massachusetts reported a recidivism rate of 6 percent compared to a statewide rate of 25 percent and a 19-percent rate for low security institutions similar to the program's (LeClair 1987).

In the Netherlands, an educational program for incarcerated drunk drivers used volunteers from various areas of the drunk driving system to teach sessions on the nature and impact of alcohol abuse and provide information on community alcoholism treatment services. Positive effects were reported on knowledge, attitudes, and driving behavior when it was evaluated (Bovens 1987).

These studies provide some preliminary support for compulsory treatment programs, either as mandated by the courts or as a component of incarceration. Here again, however, while some individual offenders may be helped to overcome addictive drinking or to avoid later drinking and driving, the impact on traffic safety is quite small.

Conclusions

Because of the nature of the alcohol-related crash problem, rehabilitative approaches can only have a very small effect on traffic safety, even if maximally effective. A wide

variety of rehabilitative programs based on a variety of theoretical models, and delivered in a variety of settings have never been able to achieve more than modest effects on recidivism. Although many evaluations of these programs suffered from methodological weaknesses, the conclusion seems inescapable that to achieve improvements in traffic safety, other strategies must be employed.

Rehabilitative programs may serve other purposes, such as providing an additional appropriate and acceptable form of punishment to offenders, enforcing a general societal message that drinking and driving is unacceptable behavior, and providing a mechanism for intervention into the drinking problems of individuals. It is important to keep in mind, however, that these possible benefits must be weighed against the costs of the programs. Rehabilitative programs are not free. In many States, a substantial industry (often a for-profit industry) supporting hundreds or even thousands of employees has grown up to provide these mandatory programs. Usually, the direct cost of the programs is borne primarily by fees paid by offenders. These fees can be viewed as just another part of the fines and other monetary penalties offenders are required to pay. From this perspective, the effectiveness of the programs may not be an issue. However, the extent to which these fees are purchasing services valuable to the individual or to society may be called into question.

While possible benefits to individuals have been discussed, these beneficial effects have not been thoroughly evaluated. A number of evaluations report attitude changes in offenders (Foon 1988). However, evaluations that measured drinking levels or improvements in other life areas, found very few effects (Stewart et al. 1987; Reis 1982). The possibility that some programs may actually have harmful effects cannot be ignored. In some States, rehabilitative programs are not closely monitored, and the appropriateness of program content and the qualifications of staff may not be carefully evaluated. Programs must deal with content that is highly charged emotionally. There is risk of harmful effects if these areas are not handled with skill and caution.

It is important to compare the effectiveness of rehabilitative programs to other sanctions – specifically license penalties. A 1984 study (Sadler and Perrine) compared the impact of alcohol treatment programs to that of license suspensions on subsequent crash rates and drunk driving recidivism. The study found that license suspensions have a significant positive impact on traffic safety, more so than did the treatment programs (although treatment programs had a greater impact on alcohol-related crashes and arrests). Hagen et al. (1980) found that license suspensions and revocations produced significant reductions in subsequent convictions and crash rates for multiple offenders. In a review of a number of evaluations of the effectiveness of license actions, Peck et al. (1985) drew this conclusion: "... there is no question that license suspensions have a significant effect in reducing the accident and drunk driving frequency of convicted DUI offenders."

Recommendations

Given the weak traffic safety benefits of rehabilitation countermeasures, it is very important that the continuation of rehabilitative programs not be allowed to deflect attention or resources away from drinking/driving countermeasures that have more powerful effects.

Strategies that primarily attempt to bring about specific deterrence will necessarily be limited in their ability to improve traffic safety. Even within that limited realm, licensing penalties have been shown to be more effective in reducing recidivism than rehabilitative programs, whatever their form. In many States, participation in a rehabilitative program is offered as a substitute for license suspension or revocation.

Such substitution is clearly *counterproductive* from the standpoint of traffic safety. If the positive effects of rehabilitative programs are sufficient to justify their continued existence, these programs *must* be used *in addition to* rather than instead of license penalties.

A larger question can be raised about all drinking/driving strategies that focus on individual behavior with little consideration of the environment that shapes that behavior (Wallack 1984). It is easier for society to blame the problem of drinking and driving on a defined group of individuals rather than on money-making products, industries, and systems that support drinking and driving and amplify its destructive potential (Vingilis 1987). In our zeal to deal with the population of identified drinking drivers, we should not lose sight of social forces such as the political and economic climate, cultural patterns, and values and norms that all combine to determine how alcohol is used and what consequences that use will have for our health and safety.

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